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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/693,626	10/24/2003	Carl W. Gerst III	C03-006	1510
23459	7590	06/28/2005	EXAMINER	
ARTHUR J. O'DEA LEGAL DEPARTMENT COGNEX CORPORATION ONE VISION DRIVE NATICK, MA 01760-2077			TRAIL, ALLYSON NEEL	
			ART UNIT	PAPER NUMBER
			2876	
DATE MAILED: 06/28/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/693,626

Applicant(s)

GERST ET AL

Examiner

Allyson N. Trail

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 11-35 is/are rejected.
- 7) ☒ Claim(s) 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 05-2005, 02-2004
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Specification***

1. The specification is objected to because reference number 102 is first referred to as a "handpiece" and then later throughout the specification is referred to as an "appliance". Please clarify.

### ***Double Patenting***

2. Claim 10 is objected to under 37 CFR 1.75 as being a substantial duplicate of claim 9. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Applicant is advised that should claim 9 be found allowable, claim 10 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the

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applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 2, 7, 9, 11, 12, 17, 19, 22, 23, 27, 29, 30-32, 34, and 35 are rejected under 35 U.S.C. 102(e) as being anticipated by Jansson et al (2004/0156539).

Jansson et al teaches the following in regards to claims 1, 2, 11, 12, 22, 23, 30, and 34:

"The apparatus comprises a scanning device adapted to capture images of at least one surface of each of the respective components, whereby to inspect said surface. The scanning device may be a line scanning device. (Abstract).

"A scanning device, which may be in the form of a high-resolution top linear CCD camera 222 is positioned over the substrate 216 and a high-resolution bottom linear CCD camera 224 is positioned below the substrate 216, to capture images of the top and bottom surfaces of the substrate 216 respectively. The apparatus uses line-scan technology." (Paragraph 0058).

"FIG. 16 is a schematic illustration of multiple illumination sources usable with the preferred embodiment of the invention. The illumination sources may include a number of serial illumination bars 226a-e, 228a-b, 230a-e, 232a-b. They can provide even illumination with different combinations, such as bright field, dark field and a combination thereof with different functions achievable from the different effects. For example, bright field illumination offers a bright image for shiny surfaces such as lead frames and gray images for rough surfaces (such as dirt-filled surfaces), whereas dark field illumination offers a dark image for shiny surfaces and gray images for rough

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surfaces. Depending on the surface, bright field or dark field illumination is selected to give optimal contrast of features in the image. Illumination bars 226a-e may be used for bright field illumination for the upper surface of the substrate 216. Illumination bars 230a-e may be used for bright field illumination for the bottom surface of the substrate 216. Illumination bars 228a-b may be used for dark field illumination of the upper surface of the substrate 216, whereas illumination bars 232a-b may be used for dark field illumination of the bottom surface of the substrate 216. The illumination from illumination bars 226a-e, 228a-b, 230a-e and 232a-b may be focused onto the surfaces of the substrate 216 as a strip of light using a cylindrical lens focusing system or light guide/pipe system, or other similar systems." (Paragraph 0061).

Jansson et al teaches the following in regards to claims 7, 9, 17, 19, 27, and 29:

"Illumination means in the form of LED lights or other forms of lighting are used to project light onto the surface of the substrate." (Paragraph 0058).

Jansson et al teaches the following in regards to claims 22, 23, 30-32, 34, and 35:

"The inspection region is therefore designed to be uniformly illuminated with a controlled lighting structure focused onto a light strip, which is composed of one of or a combination of lighting effects selected from high angle light 226a-e, 230a-e (bright field illumination), low angle light 228a-b, 232a-b (dark field illumination) and silhouette lighting or backlighting 227, 231." (Paragraph 0063).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 3-6, 13-16, and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jansson et al (2004/0156539) in view of Li (2005/0047723).

Jansson et al's teachings are discussed above. Jansson et al fails to specifically teach the different possible shapes of the light pipe.

Li teaches the following in regards to claims 3-6, 13-16, and 24-26:

"Input surface 1518 of second light pipe 1516 may have, e.g. a rectangular cross-section as shown in FIG. 23a, a square cross-section as shown in FIG. 23b, an elliptical cross-section as shown in FIG. 23c, a circular cross-section as shown in FIG. 23d, an octagonal cross-section as shown in FIG. 23e, a hexagonal cross-section as shown in FIG. 23f, or a polygonal cross-section." (Paragraph 0087).

In view of Li's teachings it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the various shaped light pipes taught by Li's in combination with the image capturing device taught by Jansson et al. As disclosed by Jansson et al above, bright and dark field illumination (high and low angle light) is desired for scanning in different situations. Therefore one would be motivated to use multiple shaped light pipes to obtain the desired illumination.

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7. Claims 8, 18, 20, 21, 28, and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jansson et al (2004/0156539) in view of Hattersley et al (2002/0000472).

Jansson et al's teachings are discussed above. Jansson et al fails to specifically teach the scanning appliance being handheld and additionally fails to specifically teach two light pipes being removable secured to the camera assembly.

Hattersley et al teaches the following in regards to claims 8, 18, 28, and 33:

"In one preferred embodiment, a portable, hand-held scanner device is employed, having a distal face on which is positioned a light-generating means for producing illumination to fall on the bar code symbol. This is oriented to shine distally. An objective lens or other focusing means focuses an image of the bar code symbol on an imager, e.g., a charge-coupled device (CCD) or a charge-injection device (CID) that is positioned proximally of the lens in the housing of the scanner device. Here, the focusing means defines an optic axis for the scanner. A low-angle light delivery system is adapted to be mounted on the distal face of the scanner device. This may include a lens barrel having an optic axis aligned with the optic axis of said scanning device, and carrying a lens, e.g., at its distal end. The lens may be omitted from the lens barrel in some designs. There is at least one light pipe, and preferably a pair of light pipes sandwiching the lens barrel between them. The light pipes have a flat proximal face to receive illumination from the light-generating means and an angulated distal face for projecting the illumination at a sharp angle relative to the optic axis. Here, the scanner arrangement is configured as a contact scanner and is to be positioned with the distal

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tip of the light pipe or pipes against the bar code symbol. In that position, the light from light delivery system impinges on the bar code symbol at a low angle relative to the surface of the article, while the optic axis of the scanner is substantially normal to the surface of the article.” (Paragraph 0010).

Hattersley et al illustrates in figure 4, the scanner with the attachment removed.

In view of Hattersley et al's teachings it would have been obvious to one of ordinary skill in the art at the time the invention was made to have Jansson et al's image capturing device be handheld as taught by Hattersley et al. As disclosed above, Jansson et al's imaging device is used to capture images of substrates. The substrates being imaged are very small. One would be motivated in use a handheld scanner in order to more easily capture the image of the substrate. Being portable or handheld the user of the image capturing device has better control of the image scanner.

Additionally, as taught above by Hattersley et al, one or more light pipes may be used with the scanning device. One would be motivated to allow the removal of the light pipes so that the pipes can be replaced with pipes of various cross-sections in order to obtain a desired field of view and scanning angle.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: McCall et al (2002/0125322), Benedict (2005/0029439), Russell et al (2004/0238637), Yeung (2003/0163623), Schlieffers et al (2002/0104887).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Allyson N. Trail* whose telephone number is (571) 272-



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2406. The examiner can normally be reached between the hours of 7:30AM to 4:00PM  
Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael G. Lee, can be reached on (571) 272-2398. The fax phone number for this Group is (703) 872-9306.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [[allyson.trail@uspto.gov](mailto:allyson.trail@uspto.gov)].

*All Internet e-mail communications will be made of record in the application file. PTO employees do not engage in Internet communications where there exists a possibility that sensitive information could be identified or exchanged unless the record includes a properly signed express waiver of the confidentiality requirements of 35 U.S.C. 122. This is more clearly set forth in the Interim Internet Usage Policy published in the Official Gazette of the Patent and Trademark on February 25, 1997 at 1195 OG 89.*

Allyson N. Trail  
Patent Examiner  
Art Unit 2876  
May 26, 2005

  
**JARED J. FUREMAN**  
**PRIMARY EXAMINER**